

**United States Environmental Protection Agency  
Region 7  
300 Minnesota Avenue  
Kansas City, KS 66101**

**Date:** 08/20/2020

**Subject:** Transmittal of Sample Analysis Results for ASR #: 8595

Project ID: YSB7J7

Project Description: TCE-Clinton Engines

**From:** Margaret E.W. St. Germain, Chief  
Laboratory Technology & Analysis Branch  
Laboratory Services and Applied Sciences Division

**MARGARET  
ST. GERMAIN**

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MARGARET ST. GERMAIN  
Date: 2020.08.20 14:01:04  
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**To:** Yvonne Smith  
SEMD/AERR/RREP

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. These results are based on samples as received at the Science and Technology Center. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our LSASD records management system.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey. It is critical that we receive your response in accordance to RCRA and the laboratory accreditation.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.



**Project Manager:** Yvonne Smith**Project ID:** YSB7J7**Project Desc:** TCE-Clinton Engines**Location:** Maquoketa**Org:** SEMD/AERR/R  
REP**Phone:** 913-551-7795

2020109

**QAPP Number:****Site Name:** TCE-CLINTON ENGINES - Site Evaluation/Disposition**Program:** Superfund**Purpose:** Site Cleanup Support**Site ID:** B7J7    **Site OU:** 00**GPRA PRC:** 000DC6

Site cleanup support GW and soil sampling.

GPRA/site code (+OU) check per DB on 6/1/2020.

Submitted ASR from the PM (YS)/TT/START contractor dated 6/1/2020 noted that this ASR is not part of a litigation hold activity at this time.

**Explanation of Codes, Units and Qualifiers used on this report****Sample QC Codes:** QC Codes identify the type of sample for quality control purpose.**Units:** Specific units in which results are reported.

\_\_\_\_ = Field Sample

ug/L = Micrograms per Liter

FB = Field Blank

ug/kg = Micrograms per Kilogram

FD = Field Duplicate

**Data Qualifiers:** Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

J = The identification of the analyte is acceptable; the reported value is an estimate.

U = The analyte was not detected at or above the reporting limit.

UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.

**ASR Number:** 8595**Sample Information Summary****08/20/2020****Project ID:** YSB7J7**Project Desc:** TCE-Clinton Engines

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 - __		Solid	SB-01-0910-072220		07/22/2020	09:34			07/23/2020
2 - __		Solid	SB-01-1516-072220		07/22/2020	09:50			07/23/2020
3 - __		Solid	SB-02-0910-072220		07/22/2020	10:15			07/23/2020
4 - __		Solid	SB-02-1516-072220		07/22/2020	10:30			07/23/2020
5 - __		Solid	SB-03-0910-072220		07/22/2020	10:55			07/23/2020
5 - FD		Solid	SB-03-0910-072220-FD		07/22/2020	10:58			07/23/2020
7 - __		Solid	SB-03-1516-072220		07/22/2020	11:15			07/23/2020
8 - __		Solid	SB-04-0910-072220		07/22/2020	11:30			07/23/2020
9 - __		Solid	SB-04-1516-072220		07/22/2020	11:50			07/23/2020
10 - __		Solid	SB-05-0910-072220		07/22/2020	12:15			07/23/2020
11 - __		Solid	SB-05-1516-072220		07/22/2020	12:25			07/23/2020
12 - __		Solid	SB-06-0809-072220		07/22/2020	12:54			07/23/2020
13 - __		Solid	SB-06-1516-072220		07/22/2020	13:00			07/23/2020
101 - __		Water	[REDACTED] Hwy 62 - Private Well		07/21/2020	11:27			07/23/2020
102 - __		Water	[REDACTED] Pershing - Private Well		07/21/2020	13:50			07/23/2020
102 - FD		Water	[REDACTED] Pershing - Private Well		07/21/2020	13:55			07/23/2020
104 - __		Water	[REDACTED] Pershing - Private Well		07/21/2020	14:10			07/23/2020
105 - __		Water	[REDACTED] Hwy 62 - Private Well		07/21/2020	14:25			07/23/2020
106 - __		Water	[REDACTED] Hwy 64 - Private Well		07/21/2020	16:18			07/23/2020
107 - __		Water	City Well 4		07/22/2020	14:40			07/23/2020
108 - __		Water	City Well 5		07/22/2020	15:00			07/23/2020
109 - __		Water	City Well 6		07/22/2020	15:15			07/23/2020
110 - FB		Water	LDL VOA Field Blank sample		07/22/2020	15:20			07/23/2020

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**Analysis      Comments About Results For This Analysis**

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**1    VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap****Lab:** Contract Lab Program (Out-Source)**Method:** CLP Statement of Work**Basis:** Dry**Samples:** 1-\_\_      2-\_\_      3-\_\_      4-\_\_      5-\_\_      5-FD      7-\_\_  
              8-\_\_      9-\_\_      10-\_\_     11-\_\_     12-\_\_     13-\_\_**Comments:**

Acetone was J-coded in samples -1, -2, -5, -5FD. Acetone and 2-Butanone were J-coded in sample -7. Although the analytes in question have been positively identified in the samples, the quantitation is an estimate (J-coded) due to high recovery of a surrogate analyte in these samples. The actual concentration for these analytes may be lower than the reported values.

1,1,2-Trichloroethane, cis-1,3-Dichloropropene and trans-1,3-Dichloropropene were UJ-coded in all field samples. These analytes were not found in the samples at or above the reporting limits; however, the reporting limits are an estimate (UJ-coded) due to the initial instrument calibration curve not meeting average RRF specifications. The actual reporting limits may be higher.

1,1,2-Trichloroethane, cis-1,3-Dichloropropene and trans-1,3-Dichloropropene were UJ-coded in all field samples. These analytes were not found in the samples at or above the reporting limits; however, the reporting limits are an estimate (UJ-coded) due to the continuing calibration check not meeting RRF specifications. The actual reporting limits for these analytes may be higher than the reported values.

Slight Methylene Chloride contamination was found in the laboratory method blank below the CRQL. Only samples containing this analyte at a level greater than ten times the contamination level of the blank are reported without being qualified. All samples that contained this analyte but at a level less than ten times the contamination in the blank have the result U-coded indicating that the reporting limit has been raised to the level found in the sample. Methylene Chloride was U-coded in samples -3 and -5.

**1    VOCs in Water by GC/MS for Low Detection Limits****Lab:** Contract Lab Program (Out-Source)**Method:** CLP Statement of Work**Samples:** 101-\_\_    102-\_\_    102-FD    104-\_\_    105-\_\_    106-\_\_    107-\_\_  
              108-\_\_    109-\_\_    110-FB**Comments:**

Cis-1,2 Dichloroethene, trans-1,2-Dichloroethene and 1,1-Dichloroethene were UJ-coded in sample -106. These analytes were not found in the sample at or above the reporting limits; however, the reporting limits are an estimate (UJ-coded) due to low recovery of the surrogate analyte. The actual reporting limits for these analytes may be higher than the reported values.

<b>Analysis/ Analyte</b>	<b>Units</b>	<b>1-__</b>	<b>2-__</b>	<b>3-__</b>	<b>4-__</b>
<b>1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap</b>					
Acetone	ug/kg	62 J	32 J	28	18
Benzene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Bromochloromethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Bromodichloromethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Bromoform	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Bromomethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
2-Butanone	ug/kg	11 U	14 U	13 U	11 U
Carbon Disulfide	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Carbon Tetrachloride	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Chlorobenzene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Chloroethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Chloroform	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Chloromethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Cyclohexane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,2-Dibromo-3-Chloropropane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Dibromochloromethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,2-Dibromoethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,2-Dichlorobenzene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,3-Dichlorobenzene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,4-Dichlorobenzene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Dichlorodifluoromethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,1-Dichloroethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,2-Dichloroethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,1-Dichloroethene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
cis-1,2-Dichloroethene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
trans-1,2-Dichloroethene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,2-Dichloropropane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
cis-1,3-Dichloropropene	ug/kg	5.6 UJ	7.1 UJ	6.4 UJ	5.3 UJ
trans-1,3-Dichloropropene	ug/kg	5.6 UJ	7.1 UJ	6.4 UJ	5.3 UJ
Ethyl Benzene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
2-Hexanone	ug/kg	11 U	14 U	13 U	11 U
Isopropylbenzene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Methyl Acetate	ug/kg	14	17	11	5.3 U
Methyl tert-butyl ether	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Methylcyclohexane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Methylene Chloride	ug/kg	5.6 U	7.1 U	6.7 U	5.3 U
4-Methyl-2-Pentanone	ug/kg	11 U	14 U	13 U	11 U
Styrene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,1,2,2-Tetrachloroethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Tetrachloroethene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Toluene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,2,3-Trichlorobenzene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,2,4-Trichlorobenzene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,1,1-Trichloroethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,1,2-Trichloroethane	ug/kg	5.6 UJ	7.1 UJ	6.4 UJ	5.3 UJ

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<b>Analysis/ Analyte</b>	<b>Units</b>	<b>1-__</b>	<b>2-__</b>	<b>3-__</b>	<b>4-__</b>
Trichloroethene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Trichlorofluoromethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
1,1,2-Trichlorotrifluoroethane	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
Vinyl Chloride	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
m and/or p-Xylene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U
o-Xylene	ug/kg	5.6 U	7.1 U	6.4 U	5.3 U

<b>Analysis/ Analyte</b>	<b>Units</b>	<b>5-__</b>	<b>5-FD</b>	<b>7-__</b>	<b>8-__</b>
<b>1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap</b>					
Acetone	ug/kg	58 J	41 J	70 J	35
Benzene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Bromochloromethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Bromodichloromethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Bromoform	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Bromomethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
2-Butanone	ug/kg	13 U	13 U	15 J	12 U
Carbon Disulfide	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Carbon Tetrachloride	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Chlorobenzene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Chloroethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Chloroform	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Chloromethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Cyclohexane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,2-Dibromo-3-Chloropropane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Dibromochloromethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,2-Dibromoethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,2-Dichlorobenzene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,3-Dichlorobenzene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,4-Dichlorobenzene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Dichlorodifluoromethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,1-Dichloroethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,2-Dichloroethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,1-Dichloroethene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
cis-1,2-Dichloroethene	ug/kg	31	23	5.8 U	5.9 U
trans-1,2-Dichloroethene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,2-Dichloropropane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
cis-1,3-Dichloropropene	ug/kg	6.3 UJ	6.5 UJ	5.8 UJ	5.9 UJ
trans-1,3-Dichloropropene	ug/kg	6.3 UJ	6.5 UJ	5.8 UJ	5.9 UJ
Ethyl Benzene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
2-Hexanone	ug/kg	13 U	13 U	12 U	12 U
Isopropylbenzene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Methyl Acetate	ug/kg	12	6.7	5.8	5.9 U
Methyl tert-butyl ether	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Methylcyclohexane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Methylene Chloride	ug/kg	6.4 U	6.5 U	5.8 U	5.9 U
4-Methyl-2-Pentanone	ug/kg	13 U	13 U	12 U	12 U
Styrene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,1,2,2-Tetrachloroethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Tetrachloroethene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Toluene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,2,3-Trichlorobenzene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,2,4-Trichlorobenzene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,1,1-Trichloroethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,1,2-Trichloroethane	ug/kg	6.3 UJ	6.5 UJ	5.8 UJ	5.9 UJ

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<b>Analysis/ Analyte</b>	<b>Units</b>	<b>5-__</b>	<b>5-FD</b>	<b>7-__</b>	<b>8-__</b>
Trichloroethene	ug/kg	73	61	5.8 U	5.9 U
Trichlorofluoromethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
1,1,2-Trichlorotrifluoroethane	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
Vinyl Chloride	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
m and/or p-Xylene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U
o-Xylene	ug/kg	6.3 U	6.5 U	5.8 U	5.9 U

<b>Analysis/ Analyte</b>	<b>Units</b>	<b>9-__</b>	<b>10-__</b>	<b>11-__</b>	<b>12-__</b>
<b>1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap</b>					
Acetone	ug/kg	29	18	26	9.9
Benzene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Bromochloromethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Bromodichloromethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Bromoform	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Bromomethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
2-Butanone	ug/kg	14 U	6.5 U	12 U	9.9 U
Carbon Disulfide	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Carbon Tetrachloride	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Chlorobenzene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Chloroethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Chloroform	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Chloromethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Cyclohexane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,2-Dibromo-3-Chloropropane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Dibromochloromethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,2-Dibromoethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,2-Dichlorobenzene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,3-Dichlorobenzene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,4-Dichlorobenzene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Dichlorodifluoromethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,1-Dichloroethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,2-Dichloroethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,1-Dichloroethene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
cis-1,2-Dichloroethene	ug/kg	180	3.3 U	5.9 U	5.0 U
trans-1,2-Dichloroethene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,2-Dichloropropane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
cis-1,3-Dichloropropene	ug/kg	6.9 UJ	3.3 UJ	5.9 UJ	5.0 UJ
trans-1,3-Dichloropropene	ug/kg	6.9 UJ	3.3 UJ	5.9 UJ	5.0 UJ
Ethyl Benzene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
2-Hexanone	ug/kg	14 U	6.5 U	12 U	9.9 U
Isopropylbenzene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Methyl Acetate	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Methyl tert-butyl ether	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Methylcyclohexane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Methylene Chloride	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
4-Methyl-2-Pentanone	ug/kg	14 U	6.5 U	12 U	9.9 U
Styrene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,1,2,2-Tetrachloroethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Tetrachloroethene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Toluene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,2,3-Trichlorobenzene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,2,4-Trichlorobenzene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,1,1-Trichloroethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,1,2-Trichloroethane	ug/kg	6.9 UJ	3.3 UJ	5.9 UJ	5.0 UJ

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Trichloroethene	ug/kg	3000	3.3 U	5.9 U	5.0 U
Trichlorofluoromethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
1,1,2-Trichlorotrifluoroethane	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
Vinyl Chloride	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
m and/or p-Xylene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U
o-Xylene	ug/kg	6.9 U	3.3 U	5.9 U	5.0 U

Analysis/ Analyte	Units	13-__	101-__	102-__	102-FD
1 VOC's in Soil at Low Levels by GC/MS Closed-System Purge-and-Trap					
Acetone	ug/kg	9.3 U			
Benzene	ug/kg	4.7 U			
Bromochloromethane	ug/kg	4.7 U			
Bromodichloromethane	ug/kg	4.7 U			
Bromoform	ug/kg	4.7 U			
Bromomethane	ug/kg	4.7 U			
2-Butanone	ug/kg	9.3 U			
Carbon Disulfide	ug/kg	4.7 U			
Carbon Tetrachloride	ug/kg	4.7 U			
Chlorobenzene	ug/kg	4.7 U			
Chloroethane	ug/kg	4.7 U			
Chloroform	ug/kg	4.7 U			
Chloromethane	ug/kg	4.7 U			
Cyclohexane	ug/kg	4.7 U			
1,2-Dibromo-3-Chloropropane	ug/kg	4.7 U			
Dibromochloromethane	ug/kg	4.7 U			
1,2-Dibromoethane	ug/kg	4.7 U			
1,2-Dichlorobenzene	ug/kg	4.7 U			
1,3-Dichlorobenzene	ug/kg	4.7 U			
1,4-Dichlorobenzene	ug/kg	4.7 U			
Dichlorodifluoromethane	ug/kg	4.7 U			
1,1-Dichloroethane	ug/kg	4.7 U			
1,2-Dichloroethane	ug/kg	4.7 U			
1,1-Dichloroethene	ug/kg	4.7 U			
cis-1,2-Dichloroethene	ug/kg	13			
trans-1,2-Dichloroethene	ug/kg	4.7 U			
1,2-Dichloropropane	ug/kg	4.7 U			
cis-1,3-Dichloropropene	ug/kg	4.7 UJ			
trans-1,3-Dichloropropene	ug/kg	4.7 UJ			
Ethyl Benzene	ug/kg	4.7 U			
2-Hexanone	ug/kg	9.3 U			
Isopropylbenzene	ug/kg	4.7 U			
Methyl Acetate	ug/kg	4.7 U			
Methyl tert-butyl ether	ug/kg	4.7 U			
Methylcyclohexane	ug/kg	4.7 U			
Methylene Chloride	ug/kg	4.7 U			
4-Methyl-2-Pentanone	ug/kg	9.3 U			
Styrene	ug/kg	4.7 U			
1,1,2,2-Tetrachloroethane	ug/kg	4.7 U			
Tetrachloroethene	ug/kg	4.7 U			
Toluene	ug/kg	4.7 U			
1,2,3-Trichlorobenzene	ug/kg	4.7 U			
1,2,4-Trichlorobenzene	ug/kg	4.7 U			
1,1,1-Trichloroethane	ug/kg	4.7 U			
1,1,2-Trichloroethane	ug/kg	4.7 UJ			

**ASR Number:** 8595  
**Project ID:** YSB7J7

**RLAB Approved Sample Analysis Results**  
**Project Desc:** TCE-Clinton Engines

**08/20/2020**

<b>Analysis/ Analyte</b>	<b>Units</b>	<b>13-__</b>	<b>101-__</b>	<b>102-__</b>	<b>102-FD</b>
Trichloroethene	ug/kg	610			
Trichlorofluoromethane	ug/kg	4.7 U			
1,1,2-Trichlorotrifluoroethane	ug/kg	4.7 U			
Vinyl Chloride	ug/kg	4.7 U			
m and/or p-Xylene	ug/kg	4.7 U			
o-Xylene	ug/kg	4.7 U			
<b>1 VOCs in Water by GC/MS for Low Detection Limits</b>					
Acetone	ug/L	13	13	15	
Benzene	ug/L	0.50 U	0.50 U	0.50 U	
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	
Cyclohexane	ug/L	0.50 U	0.50 U	0.50 U	
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U	
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	
Methyl Acetate	ug/L	0.50 U	0.50 U	0.50 U	
Methyl tert-butyl ether	ug/L	0.50 U	0.50 U	0.50 U	
Methylcyclohexane	ug/L	0.50 U	0.50 U	0.50 U	
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	
Styrene	ug/L	0.50 U	0.50 U	0.50 U	

**ASR Number:** 8595  
**Project ID:** YSB7J7

**RLAB Approved Sample Analysis Results**  
**Project Desc:** TCE-Clinton Engines

**08/20/2020**

<b>Analysis/ Analyte</b>	<b>Units</b>	<b>13-__</b>	<b>101-__</b>	<b>102-__</b>	<b>102-FD</b>
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichlorotrifluoroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

ASR Number: 8595

Project ID: YSB7J7

## RLAB Approved Sample Analysis Results

08/20/2020

Project Desc: TCE-Clinton Engines

Analysis/ Analyte	Units	104-__	105-__	106-__	107-__
1 VOCs in Water by GC/MS for Low Detection Limits					
Acetone	ug/L	17	14	15	16
Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Cyclohexane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 UJ	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methyl Acetate	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methyl tert-butyl ether	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylcyclohexane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

**ASR Number:** 8595

**Project ID:** YSB7J7

**RLAB Approved Sample Analysis Results**

**08/20/2020**

**Project Desc:** TCE-Clinton Engines

<b>Analysis/ Analyte</b>	<b>Units</b>	<b>104-__</b>	<b>105-__</b>	<b>106-__</b>	<b>107-__</b>
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichlorotrifluoroethane	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U	0.50 U

Analysis/ Analyte	Units	108-__	109-__	110-FB
1 VOCs in Water by GC/MS for Low Detection Limits				
Acetone	ug/L	14	16	18
Benzene	ug/L	0.50 U	0.50 U	0.50 U
Bromochloromethane	ug/L	0.50 U	0.50 U	0.50 U
Bromodichloromethane	ug/L	0.50 U	0.50 U	0.50 U
Bromoform	ug/L	0.50 U	0.50 U	0.50 U
Bromomethane	ug/L	0.50 U	0.50 U	0.50 U
2-Butanone	ug/L	5.0 U	5.0 U	5.0 U
Carbon Disulfide	ug/L	0.50 U	0.50 U	0.50 U
Carbon Tetrachloride	ug/L	0.50 U	0.50 U	0.50 U
Chlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
Chloroethane	ug/L	0.50 U	0.50 U	0.50 U
Chloroform	ug/L	0.50 U	0.50 U	0.50 U
Chloromethane	ug/L	0.50 U	0.50 U	0.50 U
Cyclohexane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dibromo-3-Chloropropane	ug/L	0.50 U	0.50 U	0.50 U
Dibromochloromethane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U	0.50 U
1,1-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dichloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,1-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	ug/L	0.50 U	0.50 U	0.50 U
cis-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U
trans-1,3-Dichloropropene	ug/L	0.50 U	0.50 U	0.50 U
Ethyl Benzene	ug/L	0.50 U	0.50 U	0.50 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U
Isopropylbenzene	ug/L	0.50 U	0.50 U	0.50 U
Methyl Acetate	ug/L	0.50 U	0.50 U	0.50 U
Methyl tert-butyl ether	ug/L	0.50 U	0.50 U	0.50 U
Methylcyclohexane	ug/L	0.50 U	0.50 U	0.50 U
Methylene Chloride	ug/L	0.50 U	0.50 U	0.50 U
4-Methyl-2-Pentanone	ug/L	5.0 U	5.0 U	5.0 U
Styrene	ug/L	0.50 U	0.50 U	0.50 U
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	0.50 U	0.50 U
Tetrachloroethene	ug/L	0.50 U	0.50 U	0.50 U
Toluene	ug/L	0.50 U	0.50 U	0.50 U
1,2,3-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	ug/L	0.50 U	0.50 U	0.50 U
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U	0.50 U

**ASR Number:** 8595

**Project ID:** YSB7J7

**RLAB Approved Sample Analysis Results**

**08/20/2020**

**Project Desc:** TCE-Clinton Engines

<b>Analysis/ Analyte</b>	<b>Units</b>	<b>108-__</b>	<b>109-__</b>	<b>110-FB</b>
Trichloroethene	ug/L	0.50 U	0.50 U	0.50 U
Trichlorofluoromethane	ug/L	0.50 U	0.50 U	0.50 U
1,1,2-Trichlorotrifluoroethane	ug/L	0.50 U	0.50 U	0.50 U
Vinyl Chloride	ug/L	0.50 U	0.50 U	0.50 U
m and/or p-Xylene	ug/L	0.50 U	0.50 U	0.50 U
o-Xylene	ug/L	0.50 U	0.50 U	0.50 U

**CHAIN OF CUSTODY RECORD**  
**ENVIRONMENTAL PROTECTION AGENCY REGION VII**

EPA PROJECT MANAGER (Print)

Yvonne Smith

SITE OR SAMPLING EVENT  
TCE Clinton Engines

DATE OF SAMPLING  
07 21-22 2020  
MONTH DAY YEAR

SHEET  
1 of 1

**CONTENTS OF SHIPMENT**

A SAMPLE NUMBER	TYPE OF CONTAINERS		VOA set = 3 vials/tube	nr 7/23/2020	SAMPLED MEDIA A (3 VIALS EA)	RELEASING LABORATORY		
	BOTTLE	BOTTLE				BOTTLE	C	D
NUMBER(S) OF CONTAINERS PER SAMPLE NUMBER								
8595-1			1		✓			
8595-2			1		✓			
8595-3			1		✓			
8595-4			1		✓			
8595-5			1		✓			
8595-5-FD			1		✓			
8595-7			1		✓			
8595-8			3		✓			MS/MSD
8595-9			1		✓			
8595-10			1		✓			
8595-11			1		✓			
8595-12			1		✓			
8595-13			1		✓			
8595-101				3	✓			MS/MSD
8595-102				1	✓			
8595-102-FD				1	✓			
8595-104				1	✓			
8595-105				1	✓			
8595-106				1	✓			
8595-107				1	✓			Cooler temp. delivered between
8595-108				1	✓			0-1degC. nr 7/23/2020
8595-109				1	✓			
8595-110-FB				1	✓			
								ASR Complete

27

1

✓

S

PE LC ODY REC RD

SEALED  
RELEASING LABORATORY - PM



Digitally signed by bethany.gatz@tetratech.com  
ON CN bethany.gatz@tetratech.com  
Date 2020.07.23 09 57 57 -05'00'

NICOLE ROBLEZ  
RELEASING LABORATORY - PM



Digitally signed by NICOLE ROBLEZ  
ON CN NICOLE.ROBLEZ@EPA.GOV  
Date 2020.07.23 15 49 21 -05'00'

STC analyses

RELINQUISHED BY (PM)	DATE	TIME	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY (PM)	DATE	TIME	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY (PM)	DATE	TIME	REASON FOR CHANGE OF CUSTODY
7-EPA-9262 (REF ID: 47)	WHITE	ORIGINAL EPA LAB	YELLOW EPA PROJECT MANAGER